

CLAIMS

[00113] What is claimed is:

1. A boundary layer turbine, comprising:
 - a housing, formed to create a cavity therein;
 - at least one inlet port, wherein the inlet port is coupled to the housing;
 - at least one outlet port, wherein the outlet port is coupled to the housing;
 - a shaft, comprised of two ends, wherein at least one end of the shaft extends outside the housing, and at least a portion of the shaft extends within the housing;
 - a plurality of discs with at least one hole at or near the center thereof; and,
 - a mounting means, wherein the mounting means connects the plurality of discs to the shaft using a dovetail connection.
2. The boundary layer turbine of Claim 1, wherein the plurality of discs are in physical contact with each other.
3. The boundary layer turbine of Claim 2, wherein each of the plurality of discs are etched such that at least one channel is formed between the discs.
4. The boundary layer turbine of Claim 1, wherein the mounting means uses an internal dovetail connection to connect the plurality of discs to the shaft.
5. The boundary layer turbine of Claim 1, further comprising an exhaust cone mounted at the center of the plurality of discs.
6. The boundary layer turbine of Claim 5, wherein the shape of the exhaust cone can be controlled.
7. The boundary layer turbine of Claim 5, wherein the exhaust cone includes at least one vacuum release tubes.
8. The boundary layer turbine of Claim 1, wherein the discs are made of a ceramic material.
9. The boundary layer turbine of Claim 1, wherein the discs are coated with a ceramic material.
10. The boundary layer turbine of Claim 1, wherein the discs are coated with a catalyst.
11. The boundary layer turbine of Claim 10, wherein the catalyst is Platinum.

12. The boundary layer turbine of Claim 10, wherein the catalyst is an alloy comprised of a combination of at least Nickel and Tin.
13. The boundary layer turbine of Claim 1, wherein the surface of the plurality of discs have been etched.
14. The boundary layer turbine of Claim 1, wherein six inlet ports are used.
15. A boundary layer turbine, comprising:
 - a housing, formed to create a cavity therein;
 - at least one inlet port, wherein the inlet port is coupled to the housing;
 - at least one outlet port, wherein the outlet port is coupled to the housing;
 - a shaft, comprised of two ends, wherein at least one end of the shaft extends outside the housing, and at least a portion of the shaft extends within the housing;
 - a single piece disc pack, with at least one hole at or near the center thereof; and,
 - a mounting means, for coupling the single part disc array to the shaft.
16. The boundary layer turbine of Claim 15, wherein the mounting means uses an internal dovetail connection to connect the plurality of discs to the shaft.
17. The boundary layer turbine of Claim 15, further comprising an exhaust cone mounted at the center of the plurality of discs.
18. The boundary layer turbine of Claim 17, wherein the shape of the exhaust cone can be controlled.
19. The boundary layer turbine of Claim 17, wherein the exhaust cone includes at least one vacuum release tubes.
20. The boundary layer turbine of Claim 17, wherein the exhaust cone, the disc pack, and the mounting means are made from a single component.
21. The boundary layer turbine of Claim 15, wherein the discs are made of a ceramic material.
22. The boundary layer turbine of Claim 15, wherein the discs are coated with a ceramic material.
23. The boundary layer turbine of Claim 22, wherein the discs are coated with a catalyst.
24. The boundary layer turbine of Claim 23, wherein the catalyst is Platinum.

25. The boundary layer turbine of Claim 23, wherein the catalyst is an alloy comprised of a combination of at least Nickel and Tin.
26. The boundary layer turbine of Claim 15, wherein the surface of the plurality of discs have been etched.
27. A method for obtaining power from a geothermal power source, comprising:
 - locating a heat exchanger, having an input port and an output port, at or near a source of geothermal power;
 - locating a boundary layer turbine, having at least one inlet port and an outlet port, at a position distant from the geothermal power source;
 - connecting the heat exchanger output port to at least one inlet port of a boundary layer turbine using at least one pipe;
 - connecting the at least one boundary layer turbine outlet port to the heat exchanger input port using at least one pipe.
28. A method of obtaining power from a high pressure medium and reducing the pressure such that the medium is useable in an end user device, comprising:
 - coupling a boundary layer turbine, having at least one input port, an outlet port, a disc pack, and a shaft driven by the disc pack, to a high pressure medium source;
 - coupling a generator to the boundary layer turbine shaft;
 - coupling at least one end user device to the outlet port of the boundary layer turbine; and,
 - allowing the high pressure medium to enter the boundary layer turbine through the at least one input port.
29. The method of Claim 28, wherein the medium is natural gas.
30. The method of Claim 28, wherein the medium is water.